AMENDMENTS TO THE CLAIMS

1. (Original) A method of forming micro-lenses, the method comprising:

forming a first layer on a substrate, the first layer comprised of a first material and the substrate comprised of a second material;

forming a first opening in the first layer;

providing an etchant in the first opening to etch both the substrate and the first layer to form a first mold for a first micro-lens, the etchant etches the first layer at a different rate than the substrate; and

adding a lens material in the first mold to form micro-lenses.

2. (Original) The method of claim 1, wherein the etchant is a wet etchant.

3. (Original) The method of claim 1, wherein forming the first opening in the first layer comprises:

depositing a resist material on the first layer;

patterning openings in the resist material to the first layer;

etching the first layer to extend the openings to the substrate; and

removing the resist material.

4. (Currently amended) The method of claim [[2]] 3, wherein etching the first layer to extend the openings to the substrate comprises conducting a dry etch.

5. (Withdrawn) The method of claim 1, wherein the first layer is a layer of Low Silane and the substrate is TEOS.

6. (Currently amended) The method of claim 1, wherein the first layer is a layer of [[Low]] Silane PECVD, the substrate is TEOS PECVD densified, and the etchant is about ten percent hydrogen fluoride by volume in distilled water.

7. (Withdrawn) The method of claim 1, wherein the first layer is a layer of Low Silane PECVD, the substrate is high density plasma CVD Oxide as deposited, and the etchant is about one percent by volume hydrogen fluoride in distilled water.

8. (Withdrawn) The method of claim 1, wherein the first layer is a layer of Low Silane PECVD, the substrate is HDP CVD Oxide densified and the etchant is about one percent by volume hydrogen fluoride in distilled water.

9. (Withdrawn) The method of claim 1, wherein the first layer is a layer of Low Silane PECVD, the substrate is fuse annealed dielectric antireflective coating, and the etchant is about one percent by volume hydrogen fluoride in distilled water.

10. (Withdrawn) The method of claim 1, wherein the first layer is a layer of fuse annealed dielectric antireflective coating, the substrate is HDP CVD Oxide densified, and the etchant is about a buffered solution of about five percent hydrogen fluoride by volume in distilled water.

11. (Withdrawn) The method of claim 1, wherein the first layer is a layer of borophosphosilicate glass (3.8/6.9) WJ RTP and anneal, the substrate is borophosphosilicate glass (3.0/7.6) Centura densified, and the etchant is about four percent by volume hydrogen fluoride in distilled water.

12. (Withdrawn) The method of claim 1, wherein the first layer is a layer of phosphosilicate glass (6.9) as deposited, the substrate is HDP CVD Oxide as deposited, and the etchant is a buffered solution of about five percent hydrogen fluoride by volume in distilled water.

13. (Withdrawn) The method of claim 1, wherein the first layer is a layer of fuse annealed DARC, the substrate is HDP CVD Oxide densified, and the etchant is a buffered solution of about five percent hydrogen fluoride by volume in distilled water.

14. (Withdrawn) The method of claim 1, wherein the first layer is a layer of BPSG (3.8/6.9) WJ RTP and anneal, the substrate is Low Silane PECVD, and the etchant is about ten percent by volume hydrogen fluoride in distilled water.

15. (Withdrawn) The method of claim 1, wherein the first layer is a layer of Low Silane PECVD, the substrate is TEOS PECVD, and the etchant is about four percent by volume hydrogen fluoride in distilled water.

16. (Withdrawn) The method of claim 1, wherein the first layer is a layer of TEOS PECVD, the substrate 10 is a fuse annealed dielectric antireflective coating, and the etchant is a solution of hydrogen fluoride in distilled water.

17. (Withdrawn) The method of claim 1, wherein the first layer is a layer of TEOS PECVD, the substrate 10 is HDP CVD Oxide as deposited, and the etchant is a solution of hydrogen fluoride in distilled water.

18. (Withdrawn) The method of claim 1, wherein the first layer is a layer of TEOS PECVD, the substrate 10 is HDP CVD Oxide densified, and the etchant is a solution of hydrogen fluoride in distilled water.

19. (Withdrawn) The method of claim 1, wherein the first layer is a layer of TEOS PECVD, the substrate is borophosphosilicate glass (3.8/6.9) WJ RTP and anneal, and the etchant is a buffered solution of about five percent hydrogen fluoride by volume in distilled water.

20. (Withdrawn) The method of claim 1, wherein the first layer is a layer of Low Silane PECVD, the substrate is TEOS PECVD, and the etchant is about one percent by volume hydrogen fluoride in distilled water.

21. (Withdrawn) The method of claim 1, wherein the first layer is a layer of fuse annealed dielectric antireflective coating, the substrate is Low Silane PECVD, and the etchant is a buffered solution of about five percent hydrogen fluoride by volume in distilled water.

22. (Withdrawn) The method of claim 1, wherein the first layer is a layer of HDP CVD Oxide as deposited, the substrate is TEOS PECVD densified, and the etchant is about ten percent by volume hydrogen fluoride in distilled water.

23. (Withdrawn) The method of claim 1, wherein the first layer is a layer of borophosphosilicate glass (3.8/6.9) WJ RTP and anneal, the substrate is HDP CVD Oxide as deposited, and the etchant is about four percent by volume hydrogen fluoride in distilled water.

24. (Withdrawn) The method of claim 1, wherein the first layer is a layer of fuse annealed dielectric antireflective coating, the substrate is borophosphosilicate glass (3.0/6.0) WJ as deposited, and the etchant is a buffered solution of about five percent hydrogen fluoride by volume in distilled water.

25. (Withdrawn) The method of claim 1, wherein the first layer is a layer of phosphosilicate glass (6.9) as deposited, the substrate is borophosphosilicate glass (3.8/6.9) WJ RTP and anneal, and the etchant is a buffered solution of about five percent hydrogen fluoride by volume in distilled water.

26. (Withdrawn) The method of claim 1, wherein the first layer is a layer of borophosphosilicate glass (3.8/6.9) WJ RTP and anneal, the substrate is HDP CVD

Oxide as deposited, and the etchant is about ten percent by volume hydrogen fluoride in distilled water.

27. (Original) The method of claim 1, wherein the first material is a material selected from the group consisting of: glass, oxide, silicon nitride, and a dielectric anti-reflective coating.

28. (Withdrawn) The method of claim 1, wherein the second material is a material selected from the group consisting of: glass, oxide, silicon nitride, and a dielectric anti-reflective coating.

29. (Original) The method of claim 1, wherein the etchant etches the first layer at a greater rate than the substrate.

30. (Original) The method of claim 1, wherein the etch rate ratio of the first layer to the substrate is about 1.5:1.

31. (Original) The method of claim 1, wherein the etch rate ratio of the first layer to the substrate is about 2:1.

32. (Original) The method of claim 1, wherein the etch rate ratio of the first layer to the substrate is about 3:1.

33. (Original) The method of claim 1, wherein the etch rate ratio of the first layer to the substrate is about 5:1.

34. (Original) The method of claim 1, wherein adding the lens material comprises adding an inorganic material.

35. (Original) The method of claim 1, wherein adding the lens material comprises adding a material having a higher refraction index than the refraction index of the substrate.

36. (Original) The method of claim 1, further comprising:

forming at least a second layer on the first layer, the second layer comprising a third material, wherein the etchant etches the second layer at a different rate than the first layer.

37. (Original) The method of claim 36, wherein the etchant etches the first layer at a greater rate than the substrate, and wherein the etchant etches the second layer at a greater rate than the first layer.

38. (Original) A method of forming micro-lenses, comprising:

forming a first layer on a substrate, the first layer comprised of a first material and the substrate comprised of a second material;

forming at least one second layer on the first layer, the at least one second layer comprised of a third material;

forming an opening in the first and at least one second layers;

providing an etchant in the opening to etch the substrate, the first layer, and the at least one second layer to form a mold for a micro-lens; and

adding a lens material in the mold to form a micro-lens.

39. (Original) The method of claim 38, wherein providing an etchant comprises providing a wet etchant.

40. (Original) The method of claim 38, wherein forming the opening in the first and at least one second layers comprises:

depositing a resist material on the second material;

patterning opening in the resist material;

dry etching the first and at least one second layers to extend the opening to the substrate; and

removing the resist material.

41. (Currently amended) The method of claim 38, wherein the first layer is a layer of [[Low]] Silane PECVD, the at least one second layer is a layer of borophosphosilicate glass (3.8/6.9) WJ RTP and anneal, the substrate is TEOS PECVD densified, and the etchant is about ten percent hydrogen fluoride by volume in distilled water.

42. (Withdrawn) The method of claim 38, wherein the first layer is a layer of Low Silane PECVD, the at least one second layer is a layer of borophosphosilicate glass (3.0/6.0) WJ RTP and anneal, the substrate is TEOS PECVD densified, and the etchant is about ten percent hydrogen fluoride by volume in distilled water.

43. (Withdrawn) The method of claim 38, wherein the first layer is a layer of Low Silane PECVD, the at least one second layer is a layer of borophosphosilicate glass (2.7/7.2) WJ RTP and anneal, wherein the substrate is TEOS PECVD, and the etchant is about four percent by volume hydrogen fluoride in distilled water.

44. (Withdrawn) The method of claim 38, wherein the first layer is a layer of Low Silane PECVD, the at least one second layer is a layer of borophosphosilicate glass

(2.7/7.2) WJ RTP and anneal, the substrate is TEOS PECVD, and the etchant is about one percent by volume hydrogen fluoride in distilled water.

45. (Withdrawn) The method of claim 38, wherein the first layer is a layer of Low Silane PECVD, the at least one second layer is a layer of borophosphosilicate glass (3.0/6.0) WJ RTP and anneal, the substrate is TEOS PECVD, and the etchant is about one percent by volume hydrogen fluoride in distilled water.

46. (Original) The method of claim 38, wherein the first material is a material selected from the group consisting of glass, oxide, silicon nitride, and a dielectric anti-reflective coating.

47. (Withdrawn) The method of claim 38, wherein the second material is a material selected from the group consisting of glass, oxide, silicon nitride, and a dielectric anti-reflective coating.

48. (Original) The method of claim 38, wherein the third material is a material selected from the group consisting of glass, oxide, silicon nitride, and a dielectric anti-reflective coating.

49. (Original) The method of claim 38, wherein the etchant etches at a greater rate in a horizontal direction than in a vertical direction.

50. (Original) The method of claim 38, wherein the etchant etches the at least one second layer at a greater rate than the first layer, and wherein the etchant etches the first layer at a greater rate than the substrate.

51. (Original) The method of claim 38, wherein a first etch rate ratio of the first layer to the substrate is different than a second etch rate ratio of the at least one second layer to the first layer.

52. (Original) The method of claim 51, wherein the first etch rate ratio is greater than the second etch rate ratio.

53. (Original) The method of claim 38, wherein adding the lens material comprises adding an inorganic material.

54. (Original) The method of claim 38, wherein adding the lens material comprises adding a material having a higher refraction index than the refraction index of the substrate.

55. (Withdrawn) A method of forming micro-lenses, the method comprising:

forming a layer of TEOS;

forming a layer of Low Silane on the layer of TEOS;

forming a plurality of openings in the layer of Low Silane;

providing a wet etchant in the plurality of first openings to etch the layers of TEOS and Low Silane to form a first mold for a first micro-lens, the wet etchant etching the layer of Low Silane at a greater rate than the layer of TEOS; and

adding a lens material in the first mold to form micro-lenses.

56. (Withdrawn) The method of claim 55, wherein forming a layer of TEOS comprises forming a layer of TEOS PECVD, and wherein forming a layer of Low Silane comprises forming a layer of Low Silane PECVD.

57. (Withdrawn) The method of claim 56, wherein the wet etchant is about four percent by volume hydrogen fluoride in distilled water.

58. (Withdrawn) The method of claim 56, wherein the wet etchant is about one percent by volume hydrogen fluoride in distilled water.

59. (Withdrawn) The method of claim 55, wherein forming a layer of TEOS comprises forming a layer of TEOS PECVD densified, and wherein forming a layer of Low Silane comprises forming a layer of Low Silane PECVD.

60. (Withdrawn) The method of claim 59, wherein the wet etchant is about ten percent by volume hydrogen fluoride in distilled water.